

**IN THE CLAIMS**

Please cancel claims 1-21 without prejudice or disclaimer, and substitute new claims 22-42 therefor as follows:

Claims 1-21 (Cancelled).

22. (New) A method of tuning a scheduling process for assigning tasks to resources of a workforce management system, the scheduling process being arranged for calculating a work plan or work plan data on the basis of resources availability and tasks to be carried out by said resources and as a function of predetermined scheduling parameters, comprising the following steps:

acquiring scheduling parameters data, resources availability data and tasks data concerning tasks to be carried out;

selectively modifying at least a predetermined subset of said scheduling parameters data;

running the scheduling process on the basis of scheduling parameters, resources availability and task data, for each modified scheduling parameters data, to calculate respective work plans;

acquiring target data including one or more targets which form the basis for the evaluation of work plans;

applying a score function to each of said calculated work plans for calculating respective score values representative of the degree of achievement of said one or more targets by each calculated work plan; and

selecting the work plan to be used by said workforce management system as the work plan being attributed a score value complying with a predetermined degree of achievement of one or more targets.

23. (New) The method according to claim 22, wherein the score function is selected from a plurality of functions based on said target data.

24. (New) The method according to claim 22, wherein the score function is a function operating on a subset of work plan data and comprises the step of associating to the score function an absolute integer value belonging to a predetermined limited range of values, a first end of which represents a condition of maximum deviation from target and the second end of which represents a condition of target substantially achieved.

25. (New) The method according to claim 24, wherein said range of values is 0 to 100, wherein the lower limit represents a condition of maximum deviation from the target data, and the upper limit represents a condition of target data substantially achieved, and the work plan to be used by the workforce management system is the work plan having the highest score.

26. (New) The method according to claim 22, wherein said target data comprises at least one of the following targets:

respecting appointments arranged with customers;

increasing the volume of tasks assigned for different activity types and services;

increasing the volume of backlog tasks assigned for different activity types and services;

balancing the workload between resources;

optimising resources travel time;

achieving Service Level Agreement for different activity types and services; and

assigning tasks of the most appropriate resource.

27. (New) The method according to claim 26, wherein said subset of work plan data comprises data concerning resources, comprising at least one of the following:

number of resources employed by the scheduling;

total resource idle time;

total resource travelling time;

total number of available resources;

total resource working time;

and/or data concerning tasks, comprising at least one of the following:

total number of tasks assigned to resources by the algorithm;

total number of tasks with appointment assigned to resources by the algorithm;

total number of tasks with higher priority assigned to resources by the algorithm;

number of tasks assigned to resources by the algorithm for different type of activities and services; and

total number of tasks that the algorithm could assign.

28. (New) The method according to claim 27, wherein the score function operates on the subset of work plan data by comparing a first numerical value associated with a first collection of said data with at least a second numerical value associated with a second collection of said data; and the score result is within a range of values extending from a lower limit corresponding to a condition of greatest distance between said first and second numerical value, to an upper limit corresponding to a condition of smallest distance or coincidence between said first and second numerical value.

29. (New) The method according to claim 28, wherein the score function calculates the integer of the ratio between said first numerical value and said second numerical value.

30. (New) The method according to claim 29, wherein, for a target of increasing the volume of tasks assigned for different activity types and services, the score function is:

$$\text{Score} = \text{INT} \left( \frac{\text{total number of tasks with higher priority assigned to resources}}{\text{total number of tasks that the algorithm could assign}} \right) \bullet 100.$$

31. (New) The method according to claim 29, wherein, for a target of balancing the workload between resources, the score function is:

$$\text{Score} = \text{INT} \left( \frac{\text{number of resources employed by scheduling}}{\text{total number of available resources}} \right) \bullet 100.$$

32. (New) The method according to claim 29, wherein, for a target of optimising travel time, the score function is:

$$Score = INT \left( \frac{total\ resource\ working\ time}{total\ resources\ working\ time + total\ resource\ travelling\ time} \right) \bullet 100.$$

33. (New) The method according to claim 22, wherein a score function is defined for calculating a respective value representative of the degree of achievement of multiple targets  $i$ , as a function of  $F$  of a plurality of score functions  $f_i$  related to respective targets specified in input, according to the mathematical relationship.

$$F = \begin{cases} \sum_i^O k_i \cdot f_i \\ \text{if at least a function } f_i = O, \text{ otherwise} \end{cases}$$

where the overall sum of  $k_i$  is equal to 1 and each  $k_i$  specifies the weight attributed to the respective target.

34. (New) The method according to claim 22, wherein a score function is defined for calculating a respective value representative of the degree of achievement of multiple targets  $i$  with priorities, and at least of a target  $j$  with a score not under a predetermined threshold  $T$ , as a function  $F'$  of a plurality of score functions  $f_i$  related to respective targets specified in input and said threshold, according to the mathematical relationship:

$$F' = \begin{cases} \sum_i^O k_i \cdot f_i \\ \text{if at least a function } f_i = O, \text{ or } f_i < T, \text{ otherwise} \end{cases}$$

where the overall sum of  $k_i$  is equal to 1 and each  $k_i$  specifies the weight attributed to the respective priority target.

35. (New) The method according to claim 22, wherein parameters, resource and task data are retrieved from a database of said workforce management system.

36. (New) The method according to claim 22, wherein parameters, resource and task data are retrieved from trace files produced by a Work Manager Server of said workforce management system at any execution of the scheduling algorithm.

37. (New) The method according to claim 22, wherein said modified subset of scheduling parameters and said target data are input by an operator of said workforce management system.

38. (New) The method according to claim 22, wherein said scheduling parameters comprise data concerning the distribution of resources over geographical areas, input by an operator of said workforce management system.

39. (New) The method according to claim 22, wherein score results of said evaluation of work plans are displayed to an operator as a list of calculated scores.

40. (New) A system for tuning a task scheduling process, comprising:  
memory modules for storing data concerning scheduling parameters,  
resources availability and tasks to be carried out;

a user-interface module including a parameter input unit for modifying data concerning said scheduling parameters, a target input unit for establishing one or more targets which form the basis for the evaluation of work plans, and a display for displaying the results of said evaluation of work plans; and

a processing module for calculating work plans from said data concerning scheduling parameters, resources availability and tasks; and

a score module associated with said processing module for assigning a score value to said calculated work plans according to a selected score function, which score value is related to the degree of achievement of said one or more targets.

41. (New) The system according to claim 40, wherein said task scheduling process is applied to a telecommunications network.

42. (New) A computer program product or computer program capable of being set to run on a computer system, comprising a code for carrying out a method of tuning a task scheduling process according to any one of claims 22 to 39.